



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Masashi SATO et al.

Group Art Unit: 1796

Application No.: 10/581,994

Examiner: A. KOLLAS

Filed: June 16, 2006

Docket No.: 128145

For: **CROSSLINKED FLAME-RETARDANT RESIN COMPOSITION, AND AN  
INSULATED WIRE AND A WIRING HARNESS USING THE SAME**

DECLARATION UNDER 37 C.F.R. §1.132

I, Masashi SATO, a citizen of Japan, hereby declare and state:

1. I have a Bachelor of Science degree from the Department of Chemistry of Gifu University in Gifu, Japan, which was conferred upon me in 1994.

2. I have been employed by Autonetworks Technologies, Ltd. since 2002 and was previously employed by Sumitomo Wiring Systems, Ltd. since 1994. I have had a total of 16 years of work and research experience in wire covering materials.

3. I am a named inventor in the above-captioned patent application.

4. I am not being separately compensated for my work in connection with this Declaration.

5. I have reviewed the specification, claims, rejections, and applied references in the above-captioned patent application.

6. Non-halogenous insulated wires that use the recited crosslinked flame-retardant resin composition comprising zinc sulfide are compatible with vinyl chloride insulated wires.

7. The specification describes test conditions A and B for measuring compatibility. See page 30, line 10 to page 32, line 8. Test conditions A and B both require (1) preparing mixed wire bundles of non-halogenous insulated wires containing the exemplified compositions and of polyvinyl chloride (PVC) insulated wires, (2) covering the mixed wire bundles with a PVC wiring-harness protective material and winding a PVC tape over the protective material to prepare a wiring harness, (3) aging the wiring harness at 130°C for 480 hours, (4) removing the non-halogenous insulated wires and coiling it to its diameter, and (5) inspecting the non-halogenous insulated wires for cracks. Id. If any of the non-halogenous insulated wires have cracks, then that exemplified composition was deemed to have failed the test condition (A or B). Id.

8. Example 6 is a flame-retardant resin composition that is comparable to the flame-retardant resin compositions of Comparative Examples 15-17, except that Example 6 comprises zinc sulfide and Comparative Examples 15-17 comprise other zinc compounds. See specification at page 33, Table 1, and page 36, Table 4. Specifically, Comparative Example 15 comprises zinc oxide, Comparative Example 16 comprises zinc acrylate, and Comparative Example 17 comprises zinc borate. See specification at page 36, Table 4. Additionally, Comparative Examples 15-17 do not contain coupling agents because (B) ingredients are modified by acid.

9. Example 6 passed both compatibility test conditions A and B whereas Comparative Examples 15-17 failed both test conditions A and B. See specification at page 33, Table 1, and page 36, Table 4. Thus, Example 6 has much better compatibility than Comparative Examples 15-17. See specification at page 38, lines 13-15.

10. With respect to a comparison between Example 6 and Comparative Examples 15-17, an ordinarily skilled artisan would have understood the following:

- A. The modification of EVA mainly has an effect on the mechanical properties of the composition, such as wear resistance, and would not have had any material effect on compatibility;
- B. The amount of acryl silane has an effect on wear resistance and bleeding and would not have had any material effect on compatibility;
- C. Phosphorous antioxidant, phenolic antioxidant, and cross-linking agent are all additives that would not have had any material effect on compatibility;
- D. Magnesium hydroxide and acryl silane are exemplary of the whole class of metallic hydrates and organo-functional coupling agent, respectively;
- E. Metallic hydrates have an effect on flame retardancy and would not have had any material effect on compatibility; and
- F. Coupling agents have an effect on wear resistance and bleeding and would not have had any material effect on compatibility.

11. Accordingly, the differences between Example 6 and Comparative Examples 15-17 would not have any material effect on the respective compatibilities yielded by the flame-retardant resin compositions of Example 6 and Comparative Examples 15-17 and this would have been recognized by an ordinarily skilled artisan.

12. Comparative Example 8 is different from Example 8 in that Comparative Example 8 does not contain zinc sulfide as a (D) ingredient. A comparison between Example 8 and Comparative Example 8 demonstrates that if no zinc sulfide is contained, then compatibility is not achieved because Example 8 passed both compatibility test conditions A and B whereas Comparative Example 8 failed both test conditions A and B. See specification at page 33, Table 1, and page 35, Table 3. An ordinarily skilled artisan would have understood that, although Example 8 and Comparative Example 8 have different types of coupling agents, the type of coupling agent does not affect achievement of compatibility.

13. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Date: September 29, 2010

Masashi Sato  
Masashi SATO